The *PREFACE.*

THE Learned St. *Hierom* was formerly our Advocat in celebrating the Travels and hardy Adventures of Philoſophers to acquire knowledge, and in commemorating the reſpectful Addreſſes and Veneration, which great and wiſe men offer'd to Philoſophers. This he performs with moſt affectionat ardor; and theſe Reſpects are agreeable to the Dictates of Right Reaſon, of Good Nature, and of the Good Manners of the Civil Gentiles. Alſo our famous *Cowley* came cloſe to our Concernments, both in his Poetical inſpirations, and in his ſober Proſe. He vindicates the excellency and diſtributes the main parts of Experimental Philoſophy. And thus far we have obtain'd, in our Defence, Authentique zeal, well grounded Raptures, Ancient and Modern Suffrage; on both ſides accompliſh't with the politeſt Learning and ſoundeſt Judgments.

Now, for a Caution, to prevent an unhappy Obſtruction, that it may not interrupt the Generous in their purſuit of Reviving and Promoting the Ingenuous Arts, I ſhall here enquire a little the Cauſe of their Decay in degenerating Ages. And the Roman *Satyriſt*, whoſe ſtyle was too often polluted by the profligate Luxury of his days, hath yet reſerv'd, for our occaſions, a clean, elegant and brief Declamation, (perhaps one of the beſt Remains of Antiquity,) ſince pertinent and argute Declamations had a great name in the Schools of Rome and of old Greece.

Petron.

Tum ille (Eumolpus Encolpio,) *Pecuniæ, inquit, cupiditas hæc Tropica * inſtituit. Priſcis enim temporibus, cùm adhuc* nuda virtus placeret, *vigebant* Artes Ingenuæ; *ſummúmque certamen inter homines erat, ne quid profuturum ſeculis diu lateret. Itaq;* har-

* *I. e.* Umbras rerum atque imagines tantùm, & ſimulacra rerum inania, ſurdo figurarum diſcrimine. Sic *Jan. Douſa.* V. *Plin.* l. 35. c. 11. Converſiones, inquit *Erbardus*, & mutationes. Sic *Dan. Heinſius*; Quis Deus *Tropica* hæc induxit, aut quæ eſt hæc commutatio?

harculâ * *omnium herbarum ſuccos* Democritus *expreſſit*; *&, ne Lapidum Virgultorúmque vis lateret, ætatem inter* Experimenta *conſumpſit.* Eudoxus *quidem in cacumine excelſiſſimi montis conſenuit, ut Aſtrorum Cæliq; motus deprehenderet: Et* Chryſippus, *ut ad Inventionem ſufficeret, ter helleboro animum deterſit. Verùm, ut ad Plaſtas convertar,* Lyſippum *ſtatuæ unius lineamentis inhærentem inopia extinxit; &* Myron, *qui ferè hominum animas ferarúmque, ære comprehenderat, non invenit hæredem. At nos vino ſcortiſque demerſi, ne* paratas *quidem Artes* audemus *cognoſcere; ſed, accuſatores Antiquitatis, vitia tantùm docemus & diſcimus. Ubi eſt Dialectica? Ubi Aſtronomia? Ubi Sapientiæ conſultiſſima via? Quis unquam venit in Templum, & votum fecit, ſi ad Eloquentiam perveniſſet? quis, ſi Philoſophiæ fontem inveniſſet? Ac ne bonam quidem mentem, aut bonam valetudinem petunt; ſed ſtatim, antequam limen Capitolii tangant, alius donum promittit, ſi propinquam divitem extulerit; alius ſi theſaurum effoderit; alius, ſi ad trecenta H S. ſalvus pervenerit.—— ——Nolite ergo mirari, ſi Pictura defecit, cùm omnibus Diis Hominibuſque formoſior videatur maſſa Auri, quàm quicquid* Apelles Phidiáſve, *Græculi delirantes, fecerunt.*

* *Erhard.* lege *arculâ.* Nemo fuit, qui daret ſignificatum ignotiori vocabulo. Fuére qui emendarent. At ego ex *Vitruvio* oſtendam, Arcam eſſe Machinam, quâ marinus fluctus à portu reprimitur; & inde dimittit. *Arcula*, machina quâ humor aliunde exprimitur. Idem *Schickerat.* in ep. crit. & *Barthius.* Vid. *Vitruv.* l. 5. c. 12. Quibuſdam deeſt hæc vox: Cæterum nullum exemplar habent.

By comparing this collapſed ſtate of the nobleſt Sciences, we may ſee the peculiar happineſs of this preſent Age, in which there are in all parts of the Learned World ſo many excellent perſons of Luſtre and Honour, of eminent Authority, great Power, and ample Fortunes, who do generouſly contribute the influence of their Countenance, many their own Perſonal Aſſiſtance, and ſome their Treaſures, to recover and adorn the Antient Arts, and to ſupply Extraordinary Aids and Accommodations.

And this Glory is principally to be aſcribed to our Moſt Gracious King, the Founder of the *Royal Society*, whoſe propitious Patronage doth cheriſh ſo many learned Votaries and curious Artificers in all his Kingdoms, and as far as his Dominions do extend; and whoſe great Example doth invite and encourage

ſo many forrein *Virtuoſi* of great fame and ſolid worth, to afford conſiderable Aſſiſtance towards the Propagation of Philoſophical Arts, and the Advancement of knowledg. Of which many pregnant Inſtances and manifeſt Matters of Fact do bear evidence, as they are with faithfulneſs, but without artifice or elaboratneſs, regiſtred in theſe un-poliſh't Volumes.

A Diſcovery of two New Planets *about* Saturn, *made in the Royal Pariſian Obſervatory by Signor* Caſſini, *Fellow of both the Royal Societys, of* England *and* France; *Engliſh't out of French.*

I.

A Diſcovery of 10 *ſmall Fixt Stars, and of one New Planet, firſt.*

ABout the end of *October* 1671. Saturn paſs'd cloſe by *Four* ſmall Fix't Stars, viſible only by a Teleſcope, within the *ſinus* of the Water of *Aquarius*, which *Rheita* once took for New Satellits of Jupiter, calling them *Urban-octavians*; but which *Hevelius* (who called them *Vladiſlavians*) ſhew'd to be ſome of the common Fix't Stars, that may every day be ſeen by a Teleſcope any where in the Heavens.

This Paſſage of Saturn gave us occaſion to diſcover in the ſame place, within the ſpace of 10 minuts, by a Teleſcope of 17 feet, made by *Campani*, *Eleven* other ſmaller Stars, one of which, by its particular motion, ſhew'd it ſelf to be a true *Planet*: which we found by comparing it not only to Saturn and his Ordinary Satellit, diſcovered 1655 by Mr. *Hugens*, but alſo to other Fix't Stars, and particularly to three, marked *a*, *b*, *d*, in the Firſt *Table*, where, to avoid a long explication of our firſt Obſervations, we have deſcribed the way of Saturn, and that of the New Planet, alwayes *marked* c, beginning from *October* 25. unto *Novemb.* 6. We have added to it the Ordinary Satellit, without any particular mark, becauſe he is eaſie to be known, being in theſe obſervations always next to Saturn. The diſtances are repreſented in their juſt proportions; but to make Saturn more remarkable in the Table, he is repreſented twice bigger than he ſhould be in proportion to the diſtances *.

See Tab. I. *Fig.* II.

* Note, *that in* Tab. I. fig. I. *the diviſions mark'd in the great-ſt Circle do denote the days of the* 3 *months, nominated within that circle.*

Theſe